STATE OF MAINE

PUBLIC UTILITIES COMMISSION

In the Matter of Emera Maine, Maine Electric Company, and Chester SVC Partnership Request for Approval of Reorganization	Docket No. 2019-00097

CONFIDENTIAL DIRECT TESTIMONY AND EXHIBITS OF

LARRY W. HOLLOWAY, P.E.

ON BEHALF OF THE

OFFICE OF THE PUBLIC ADVOCATE

Contains Information Provided Pursuant to

Protective Order 2, 3 and Protective Order 5

September 10, 2019

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I. Introduction

Q. Please state your name and address.

A. My name is Larry W. Holloway and my address is 6856 Lake Ridge Parkway, Ozawkie, Kansas 66070.

Q. Who are you representing?

A. I am an independent regulatory consultant representing the Maine Office of the Public Advocate (OPA).

Q. Please state your experience and qualifications.

A. While my resume is provided as Exhibit LWH-1, I will provide a brief description of my experience and expertise as it relates to this proceeding.

I have nearly 40 years of engineering and management experience in the operation and regulation of electric and gas utilities. I have broad experience in electric generation facility design, operations, maintenance and planning as well as state, regional and national electric utility regulatory policy issues. I have significant experience in all aspects of electric industry regulatory matters including mergers and acquisitions; wholesale and retail competitive issues; generation, transmission and distribution reliability; transmission cost allocation; rate design and class cost of service; nuclear decommissioning costs; transmission and generation siting evaluations; revenue requirements; transmission formula-based rates; wholesale generation formula-based rates; renewable energy and conservation initiatives; budgeting, planning, and financing; and operations and management reviews. Over the past twenty-six years I have provided testimony in over 50 proceedings before state regulatory commissions, over 40 as a member of the Kansas Corporation Commission[1] Staff, and the remainder as an independent regulatory consultant or on behalf of a Kansas municipal energy agency.

As part of my regulatory experience I have reviewed, analyzed and provided recommendations in written testimony in numerous mergers, acquisitions and certificate filings, including: an analysis and recommendation regarding merger

[1] The Kansas Corporation Commission ("KCC") is the Kansas utilities commission.

operations, dispatch and fuel savings on a failed merger attempt between Kansas City Power & Light and Western Resources, Inc.;[2] analysis of generation, transmission, fuel and dispatch savings and recommendation to reject a proposed regulatory plan on a failed merger attempt between UtiliCorp United Inc. and the Empire District Electric Company;[3] analysis and recommendations related to treatment of the gain on sale of assets between ratepayers and shareholders from the sale of distribution facilities from Westar Energy, Inc., to Midwest Energy, Inc.;[4] analysis and recommendations regarding Southwest Power Pool's application for a certificate as a regional transmission organization in the state of Kansas;[5] analysis and recommendations regarding fuel, capital expenditures, and treatment of fuel cost adjustments in the acquisition of Kansas electric properties of Aquila, Inc. by the rural distribution cooperative owner-members of Sunflower Electric Power Cooperative;[6] analysis and recommendations regarding wholesale generation contracts and transmission planning, operations and pricing in a failed attempt of Great Plains Energy Inc. to acquire Westar Energy, Inc.;[7] analysis and recommendations regarding wholesale generation contracts and transmission planning, operations and pricing in a merger of Great Plains Energy Inc. to acquire Westar Energy, Inc.;[8] and recommendations for wholesale transmission policy and pricing for the merger of Sunflower Electric Power Corporation and Mid-Kansas Electric Company, Inc.[9]

In addition to these merger and acquisition regulatory proceedings I have provided Federal Energy Regulatory Commission testimony resulting in the development of a formula-based generation rate between Westar Energy and Westar

[2] As a member of KCC Staff, see Exhibit LWH-1, KCC Docket No. 97-WSRE-676-MER.
[3] As a member of KCC Staff, see Exhibit LWH-1, KCC Docket No. 00-UCUE-677-MER.
[4] As a member of KCC Staff, see Exhibit LWH-1, KCC Docket No. 03-MDWE-421-ACQ.
[5] As a member of KCC Staff, see Exhibit LWH-1, KCC Docket No. 06-SPEE-202-COC.
[6] As a member of KCC Staff, see Exhibit LWH-1, KCC Docket No. 06-SPEE-202-COC.
[7] On behalf of Kansas Power Pool, see Exhibit LWH-1, KCC Docket No. 16-KCPE-593-ACQ.
[8] On behalf of Kansas Power Pool, see Exhibit LWH-1, KCC Docket No. 19-KCPE-095-MER.
[9] On behalf of Kansas Power Pool, see Exhibit LWH-1, KCC Docket No. 19-SEPE-054-MER.

Generating Inc.,[10] as well as testimony in numerous rate proceedings, as either a member of KCC Staff, a member of management for a Kansas municipal energy agency or as an independent regulatory consultant.

While at the University of Kansas I completed Bachelor of Science degrees in Civil and Mechanical Engineering. Later in my career I completed a Masters of Engineering Management degree from Washington State University and a Masters of Mechanical Engineering from the University of Kansas. In addition, I became a registered Professional Engineer in Mechanical and Civil Engineering. After 12 years of experience in the construction, startup and operation of nuclear power plants I spent the next 16 years as a section chief for the Staff of the Utilities Division of the Kansas Corporation Commission. For the past 10 years I have been a member of the management team of a small municipal energy agency in Kansas where my position also allows me to provide independent regulatory consulting services upon occasion, provided these services are not a conflict to Kansas public power interests. I have restricted my consulting activities to the non-conflicting services of state regulatory commissions or consumer advocates.

II. Purpose

Q. What is the purpose of this proceeding?

A. This proceeding is a request for the Maine Public Utilities Commission (MPUC or Commission) to provide the necessary state utility regulatory approval for the sale and acquisition of the Emera Maine[11] electric utility properties. As described in the application:[12]

> "The Proposed Transaction would allow ENMAX Corporation ("ENMAX"), acting through its wholly-owned, indirect subsidiary, 3456, Inc. ("ENMAX US Holdings"), to acquire all of the outstanding common stock of BHE Holdings Inc.

[10] On behalf of KCC Staff, see Exhibit LWH-1, FERC Docket No. ER01-1305.

[11] Emera Maine is used throughout this testimony to broadly describe the properties of BHE Holdings including Maine Electric Power Company, Inc. (MEPCO), Emera Maine, and Chester SCV Partnership (Chester), unless MEPCO assets are specifically identified.

[12] *See* Joint Petition filed May 7, 2019 in Docket No. 2019-00097, page 1, Introduction.

("BHE Holdings"), which is the direct parent company of Emera Maine. The Proposed Transaction is structured as a sale of 100% of Emera US Holdings Inc.'s ("EUSHI") equity interests in BHE Holdings to ENMAX US Holdings."

Q. Can you broadly describe the value of the transaction and the buyer and the seller?

A. Yes. The seller is Emera Incorporated, which is selling its indirect subsidiary, Emera Maine to the buyer ENMAX, a private Canadian corporation whose sole shareholder is the City of Calgary.[13] As shown in the Emera company press release announcing the acquisition,[14] Emera has approximately $32 billion CAD in assets throughout North America and the Caribbean, while ENMAX has approximately $5.6 billion CAD in assets in the Canadian providence of Alberta. The transaction itself is described as having a purchase price of $1.286 billion CAD or $959 million USD. ENMAX has indicated that it initially plans to fund the transaction with debt.[15] David Brevitz describes the proposed transaction in further detail in his testimony on behalf of the OPA.

Q. Does this proposed transaction raise any concerns?

A. Yes. ENMAX has made numerous commitments that, of and by themselves, should ensure that Emera Maine ratepayers at least initially benefit from this transaction.[16] However, as discussed, ENMAX is a utility with a little more than one sixth the assets of Emera and ENMAX has indicated it may finance the entire transaction with debt. The concern is that completing the proposed transaction and making the necessary investments to properly operate and maintain Emera Maine's transmission and distribution facilities could stretch the financial capability of ENMAX and the anticipated timing to pay down the debt from the Acquisition.

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[13] *Ibid.* paragraphs 2 through 5.
[14] *See* Exhibit LWH-2
[15] *See* the Prefiled Testimony of Helen Wesley, filed June 10, 2019 in this proceeding, p.4-5.
[16] *See* the Prefiled Supplemental Testimony of Andrew Barrett, filed July 1, 2019 in this proceeding, p.4, l.11 through p.5, l.5.

Q. How do you propose to address this concern?

A. My testimony will provide an estimate of a worst-case financial scenario in which ENMAX would be required to finance a higher than expected Emera Maine capital expenditure plan while making the necessary storm restoration expenditures from an extraordinary weather event. This estimate is then referred to in the Direct Testimony of OPA witness David Brevitz.

III. Emera Maine System Condition

Q. Do you believe the condition of the Emera Maine assets is a concern in this acquisition?

A. Yes. Because ENMAX proposes to primarily, if not entirely, finance the acquisition of Emera Maine with debt, the financial ability of ENMAX to make the necessary expenditures to maintain, operate and improve the Emera Maine electric transmission and distribution service must be considered when evaluating the public interest of this acquisition.[17] The condition of the Emera Maine assets will directly affect the amount of operating, maintenance, administration and capital expenditures necessary to provide the expected level of service.

Q. Have you evaluated the condition of the Emera Maine assets?

A. I have reviewed Emera Maine distribution service concerns already identified by the MPUC, Emera Maine distribution service reliability performance, asset condition concerns identified by Emera Maine, and asset and operation concerns identified by ENMAX due diligence reports.

IV. Emera Maine Distribution Service Concerns Identified by the MPUC

Q. Have you reviewed recent actions taken by the MPUC regarding Emera Maine distribution service concerns?

[17] August 14, 2019 Technical conference, transcript pages 42-43: **[Begin Confidential PO 5]** [redacted] **[End Confidential PO 5]**

A. I have reviewed the filings and reports included in the Docket Nos. 2015-00161 and 2015-00360.

Q. Can you provide an overall summary of the issues identified and resolved in Docket No. 2015-00161?

A. Yes. On June 17, 2015 the Commission issued a Notice of Investigation (NOI) to open Docket No. 2015-00161. This NOI was issued in response to an April 1, 2015 Emera Maine submission of its "annual schedule of transmission line rebuilds and relocations for the next five years."[18] The Commission expressed concern that the proposed projects would create a dramatic increase in the transmission charges for both Emera Maine Bangor Hydro District (BHD) customers and Emera Maine, Maine Public District (MPD). As the Commission went on to state:

"In initiating this investigation, we make no judgment on whether any or all of the projects which were identified by Emera Maine in its filing are needed. Rather than judging the merits of individual projects, which can be reviewed in the context of future Certificate of Public Convenience and Necessity (CPCN) proceedings, the focus of this investigation will be to examine how Emera Maine got to the point where such a large part of its transmission system would need to be rebuilt in such a short period of time."[19]

Q. How was Docket No. 2015-00161 resolved?

A. The docket is still open. However, it appears many of the issues raised were addressed in the management audit ordered in Docket No. 2015-00360.

Q. Why did the Commission order a management audit of Emera Maine in Docket No. 2015-00360?

A. On March 21, 2016 Emera Maine filed for a general increase in rates of 8.3 percent. On April 13, 2016 the Commission ordered a management audit of Emera Maine. In reviewing the Commission's order,[20] it appears that cost overruns and poor customer service results from the implementation of a new Customer Information System

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[18] *See* the last paragraph, page 2, June 17, 2015 Notice of Investigation Docket No. 00161.
[19] *Ibid.* first paragraph on page 3.
[20] *See* the April 13, 2016 Order Initiating Management Audit in Docket No. 2015-00360.

(CIS) and concerns identified in Docket No. 2015-00360 resulted in the Commission's decision to perform the management audit. Specifically, the Commission stated that the purpose of the management audit was to:

"[D]etermine whether Emera Maine's operations are being conducted in an effective, prudent and efficient manner and whether Emera Maine's Management acted prudently with regards to: 1) the management of the Company's acquisition and implementation of its new customer billing (CIS) system; 2) the management of the Company's customer service functions; and 3) the operation and reliability of its transmission and distribution (T&D) system."[21]

While much of the Commission's concern was regarding implementation and cost of the Emera Maine CIS system, and the related effects on customer service, the Commission also addressed how it expected the management audit to address reliability concerns regarding Emera Maine's Transmission and Distribution (T&D) service:

"In addition to the customer service problems which seem to have arisen over the past couple of years, information presented to us as part of our investigation in *Maine Public Utilities Commission, Commission Initiated Investigation into Emera Maine's Transmission Maintenance and Planning Practices,* Docket No. 2015-00161, raises issues/concerns regarding the reliability of Emera Maine's T&D system."[22]

Specifically, the Commission directed the audit to determine:

"Whether Emera Maine's management and operation of its T&D system is being done in a manner that is effective, prudent and efficient and in a manner that ensures that its customers receive reliable service in accordance with reasonable utility management practices."[23]

Q. Did the Commission perform a management audit?

A. Yes. The Liberty Consulting Group was selected to perform the management audit and submitted its Final Report on an Audit of Emera Maine's Management Practices,

[21] *Ibid.*, section I.
[22] *Ibid.* page 3.
[23] *Ibid.* Section II.3.

Customer Information System and Service Quality on August 8, 2016 in Docket No. 2015-00360.[24]

Q. What did the Liberty Report conclude regarding T&D system operations and maintenance?

A. While the Liberty Report recognized geography, climate and system configuration as difficulties Emera Maine faced in improving reliability, the report expressed concern that improving reliability did not appear to be an Emera Maine management priority:

"Our biggest concern lies in the comfort that management has in continuing to accept the level of reliability performance its metrics have shown. Management reflects that acceptance, for example, by targeting continuation of what is a comparatively extremely low level of performance in avoiding customer interruptions (measured by SAIFI, or System Average Interruption Frequency Index). For the short term, management's targets actually countenance a reduction in performance. Its use of a five-year average incorporates two particularly bad SAIFI years, meaning that an already extremely low level of SAIFI performance could worsen in the current year, while still satisfying management's target."[25]

The report also concluded that skipped visual inspections of T&D right of way and no formal inspections of distribution circuits in the MPD since at least 2011 violated good utility practice.[26]

Q. Did the Liberty Report make any findings regarding Emera Maine's reliability relative to other electric utilities?

A. Yes. As stated in the Liberty Report:

"Emera Maine has experienced particularly lower reliability when measured by the frequency of interruptions (SAIFI). Comparisons to other companies using the IEEE 2.5 Beta exclusion method show the company at essentially the bottom of the comparative list."[27]

[24] Referred to as "the Liberty Report."
[25] *See* Page I-2 of the Liberty Report.
[26] *Ibid.*
[27] *Ibid.* page II-27.

Q. What recommendations did the Liberty Report make regarding T&D reliability?

A. The report recommended that Emera Maine should use and prioritize cost effective reliability projects to reduce customer interruptions on a year-to-year basis; improve automation of its Outage Management System (OMS); conduct roadside and right of way T&D inspections on a scheduled basis; update the Emera Maine System Emergency Operations Plan (SEOP) to document the storm preparedness process; emphasis identification of outage causes; and include lightning as an outage cause and use a lightning location service to improve lightning protection.[28]

Q. What did the Commission conclude regarding reliability of the Emera Maine T&D service based on the Liberty Report?

A. The Commission found that "the Company's suspension of its inspection program in 2014 and 2015 in the BHD and failure to have any formal inspection program in the MPD, given both its historically poor reliability performance and the requirements of the NESC, was not a sound management practice."[29] The Commission went further and used this reliability concern as one of the reasons to determine that Emera Maine should be given a Return on Equity on the lower end of the range to hold "shareholders accountable for management's lack of efficiency."[30]

V. Emera Maine T&D Service Reliability Performance

Q. Do you have any other observations regarding Emera Maine T&D service reliability?

A. Yes. Reliability performance of T&D assets is commonly measured by 3 different indices: System Average Interruption Frequency Index (SAIFI, which measures the customer annual average number of service interruptions); System Average Interruption Duration Index (SAIDI, which measures the customer annual average hours of service outage); and Customer Average Interruption Duration Index

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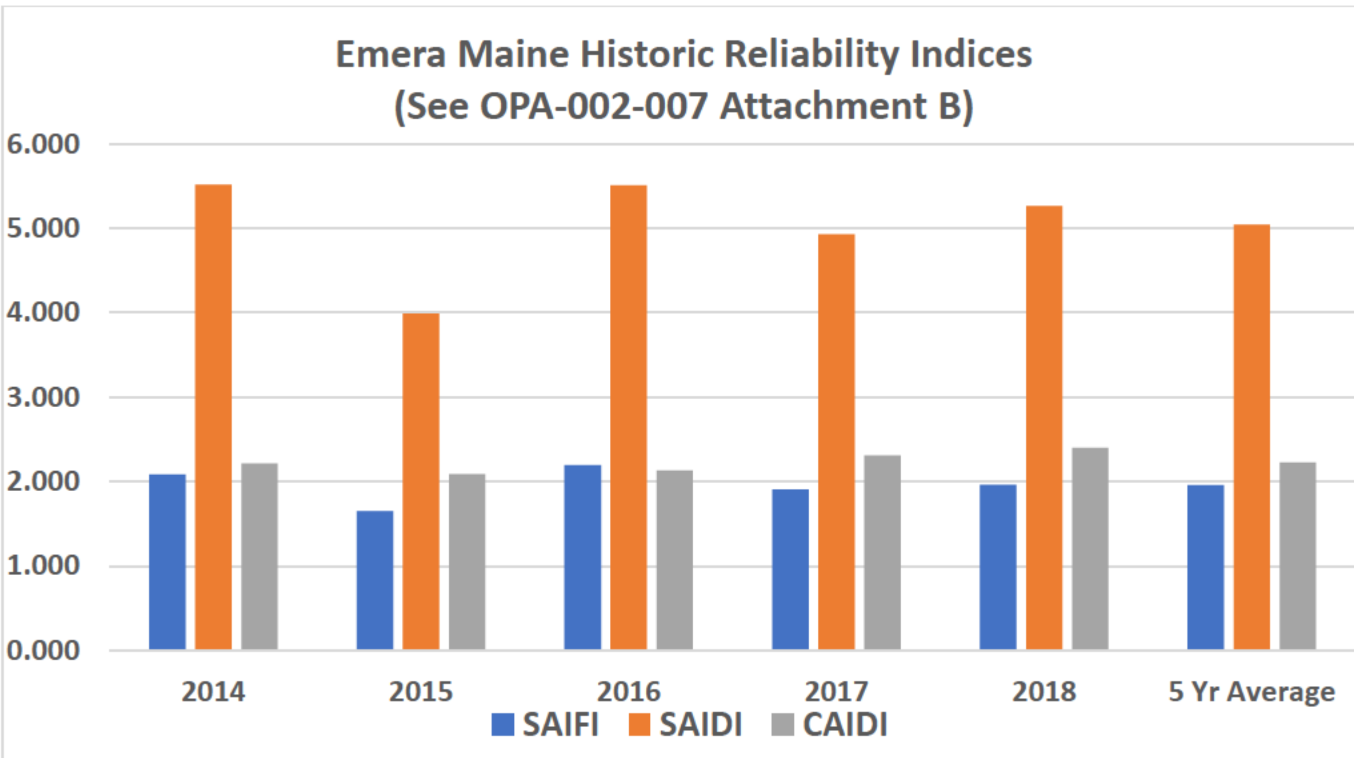
[28] *Ibid.* page I-3.
[29] *See* Section VI.B.2 (page 33) of the December 22, 2016 Order – Part II in Docket No. 2015-00360.
[30] *See* Section G (page 84) of the December 22, 2016 Order – Part II in Docket No. 2015-00360.

(CAIDI, which measures the customer annual average hours of outage duration). Normally these indices are calculated with large outage events excluded. The concept is that by excluding extraordinary weather events, for example, the indices give some indication of the overall maintenance of the distribution facilities and the associated vegetation management. The following figure illustrates Emera Maine five-year reliability performance:

Figure 1



Q. Do these results raise any concerns?

A. Yes. It is understandable that efforts to improve T&D service reliability do not cause changes overnight. Nonetheless the fact that 2017 and 2018 reliability performance does not appear to be visibly improving is concerning. Even though the Commission and the Liberty Report have identified year-over-year reliability improvement as an expected goal of Emera Maine, such improvement is not evident. Instead, these results show that there appears to be little or no overall improvement

over the last 5 years. Obviously, the immediate concern is the quality of service and customer expectations. However, this is not the only issue that poor T&D service reliability performance may indicate. Since this reliability performance implies needed maintenance and vegetation management, it also implies that the Emera Maine T&D system is particularly vulnerable to extraordinary weather events. As will be discussed later in this testimony, it is reasonable to fear that a catastrophic weather event could cause a large amount of unanticipated storm recovery costs. The owner of the Emera Maine T&D facilities should have the financial capability to finance these costs.

VI. Asset Conditions Identified by Emera Maine

Q. Have you reviewed T&D condition reports prepared by Emera Maine?

A. Yes. In addition to the annual Emera Maine Power System Reliability Reports for 2014 through 2017, I have reviewed the 2018 Marsh Risk Consulting Risk Report,[31] reviewed the October 26, 2018 Emera Maine Storm Hardening Review,[32] and Emera Maine pole and conductor reports provided to the buyer (ENMAX) under Exhibit 1.1 of the Purchase and Sale Agreement.[33]

Q. Can you provide a summary of your review of the 2014 – 2017 Emera Maine Power System Reliability Reports?

A. Yes. My review focused on the issued identified by distribution line inspections. These results are illustrated in the following Table:

[31] Referenced in the ENMAX METSCO report provided in EME-002-005 attachment 3 and provided as OPA-002-028 Attachment B confidential pursuant to PO No. 2, "the Marsh Report."
[32] Provided as OPA-002-028 Attachment S confidential pursuant to PO No. 2, "the Storm Hardening Review."
[33] Provided as attachments in the response to OPA-002-028, "Pole and Conductor Reports."

Table 1

[Begin Confidential per PO 2]

[redacted]

[End Confidential per PO 2]

Q. What are your conclusions based on this evaluation?

A. It appears that line inspections identify many issues. The number of issues and the issues per mile is not entirely unexpected given the reliability performance.

Q. Have you reviewed the Marsh Report?

A. Yes. The report is described as a report on the risks associated with Emera Maine's largest operations centers and transmission substations.[34] As stated in the Marsh

[34] While the Marsh Report is provided as OPA-002-028 Attachment B confidential pursuant to PO No. 2, it is also discussed in the redacted version of the METSCO Report provided in response to EME-002-005

Report: "The purpose of this report is to communicate the findings of an operational risk evaluation of Emera Maine from a property and machinery risk context. … The report is intended to be used for risk management purposes only."[35]

Q. Are there concerns raised in the Marsh Report that you believe could be relevant when attempting to address possible unusual financial needs for ENMAX upon acquiring Emera Maine?

A. Yes, based on the Marsh Report I have several concerns. **[Begin Confidential per PO 2]** [redacted]. **[End Confidential per PO 2]** While the report is intended to determine the proper amount of property insurance and actions needed to reduce fire risk, for the purposes of my review, the more important concern is related to the potential for damage to equipment that may take a long time to replace, regardless of whether it is properly insured. Large transformers and diesel generators, for example, may require up to a year to locate, procure and replace. While the loss may be insured, the interruption in service or the necessary temporary repairs while awaiting the permanent replacement equipment may affect service quality.

attachment 3. Unredacted comments involving the Marsh Report will reflect the unredacted discussion in the METSCO report, while redacted information will be only available from OPA-002-028 Attachment B.

[35] *Ibid.* page 5.

Q. Have you evaluated the Storm Hardening Review?

A. Yes. **[Begin Confidential per PO 2]** [redacted]

[redacted]

[redacted] **[End Confidential per PO 2]**

Q. Do you have any concerns regarding the Storm Hardening Review?

A. Not specifically. Taken by itself it is an attempt to focus capital spending in an efficient manner to address service reliability. Nonetheless, given the need to perform visual inspections on distribution circuits and to address issues identified by these inspections, there is a concern that this effort could take away resources being used to catch up with visual inspections and to correct issues identified during those inspections. In any case, while storm hardening may well be the most efficient use of resources to prevent extraordinary expenses from storm restoration, as will be discussed later, issues regarding Emera Maine Asset Management may need to be addressed first.

[Begin Confidential per PO 2] [redacted]

[redacted] **[End Confidential per PO 2]**

Q. Have you reviewed the Pole and Conductor Reports?

A. Yes. These reports were provided in response to the OPA-002-028 request to provide documents requested by ENMAX under the Purchase and Sale Agreement Exhibit 1.1. The reports include age distribution of transmission poles by voltage, age distribution, region and types of conductor, age distribution and types of distribution poles, and the results of distribution pole inspections.

Q. Can you describe the information provided on distribution pole ages?

A. The information is provided in the following Table:

Table 2

Emera Maine Distribution Poles by Age (OPA-002-028-Attachment K)		
Age	**Qty**	**%**
unknown	15,983	8.35%
pre-1950	1,058	0.55%
1950's	8,923	4.66%
1960's	24,488	12.79%
1970's	27,102	14.16%
1980's	36,608	19.12%
1990's	33,267	17.38%
2000's	28,855	15.07%
2010's	15,142	7.91%
Total	**191,426**	**100.00%**

As shown the age distribution is probably not unexpected for a typical distribution system that has seen little customer growth in the last decade or so. Nonetheless, over 32 percent of the distribution poles are more than 40 years old,

being installed in the 1970s or earlier and that is not considering the poles with an unknown age. If one assumes that these poles are likely of the same vintage, this increases the amount to more than 40 percent or 77,554 poles.

Q. What information was provided regarding distribution pole inspections?

A. The following Table was provided:

Table 3

OPA-002-028-Attachment L							
Distribution Inspection Program (**Qty of Poles per Year Inspected, Qty of Issues Found, and %'s by Inspection Type)**							
Yr	**Visual Inspection**			**Ground Line Inspection**			
	Poles Inspected	**Issues Identified**	**%**	**Poles Inspected**	**Issues Identified**	**%**	
2014	7,980	235	2.9%	N/A	-		-
2015	4,729	471	10.0%	N/A	-		-
2016	56,906	5,926	10.4%	N/A	-		-
*2017	53,106	18,799	35.4%	6,120	134		2.2%
2018	58,719	results pending		4,785	results pending		
Yr	**Thermography Inspection**				**Ultrasonic Inspection**		
	Poles Inspected	**Issues Identified**		**%**	**Poles Inspected**	**Issues Identified**	**%**
2014	N/A	-		-	N/A	-	-
2015	N/A	-		-	N/A	-	-
2016	N/A	-		-	N/A	-	-
*2017	6,674	68		1.0%	N/A	-	-
2018	19,272	34		0.2%	5,049	38	0.8%
* The increase in 2017 "Issues identified" over prior years was due to a new focus on three specific items for safety (missing guy markers & distribution no longer in service) and storm hardening (ex. identifying locations where adding a bolted connection would enhance securing them to poles). Without these new items, the % Issues = 8.9%							

The information provided does raise several concerns. The 2017 ground line inspection found that 2.2 percent of the poles inspected were identified with "issues." Ground line

inspections of distribution and transmission poles are important because often pole rot can occur at or below ground level and appear undamaged from a visual inspection. It is not clear from the information provided how the 6,120 poles were selected for ground line inspection. If there were no specific criteria and they were selected at random it would appear this program should be expanded.

Q. Can you describe the information provided for transmission poles?

A. Yes. Like the information provided for distribution poles, there were age distribution graphs provided for both BHD and MPD. Additionally, there was a chart provided that listed the types of conductor present on the BHD and MPD transmission lines by voltage. The age distribution was not particularly surprising for typical transmission assets on a system with a variety of older transmission lines. Of greater concern is the variety of transmission conductor sizes and materials on the system. Given the different sizes and material types of transmission conductors it may be that there are a relatively large number of splices present on the various voltages of transmission lines in both regions. This can create problems in ice storms or under ice and wind conditions. Not only can the splices be weaker than the adjacent conductor, they are larger in diameter promoting a much larger amount of ice or snow accumulation and associated wind profile.

VII. Asset and Operation Concerns Identified by ENMAX Due Diligence

Q. Have you reviewed the due diligence reports prepared by ENMAX regarding the Emera Maine assets and the proposed transaction?

A. Yes. In addition to much of the internal analysis prepared by ENMAX, I have reviewed the WKM Report,[36] the Dumais Report[37], the Thorndike Landing Letter,[38] the KPMG Report[39] and the METSCO Report.[40]

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[36] Summary Report of WKM Energy Consultants Inc. Regarding Project Wintergreen, provided as EME-002-005 Attachment 1, "the WKM Report."
[37] Provided as EME-002-005 Attachment 4 Confidential per PO 5, "the Dumais Report."
[38] Provided as EME-002-005 Attachment 5 Confidential per PO 5, "the Thorndike Landing Letter."
[39] Provided as OPA-001-042 Attachment 1 Confidential per PO 5, "the KPMG Report."
[40] METSCO Energy Solutions Inc., March 16, 2019 Project Wintergreen Due Diligence Report: Asset Management and Core Operations, provided as EME-002-005 Attachment 3, "the METSCO Report."

Q. Can you describe the WKM Report and the Dumais Report?

A. Yes. Broadly speaking the Dumais report was an analysis of federal and state regulatory considerations and issues that ENMAX should consider when acquiring the Emera Maine properties. On the other hand, the WKM Report provided information on the interrelationship of the transmission systems for the region and potential opportunities for Emera Maine to make transmission investments, both for Emera Maine alone and Emera Maine's participation in MEPCO. As discussed in the WKM Report, it appears the most likely MEPCO project to go forward would be the rebuild of the original 345 kV MEPCO line due to the need to replace the wood poles and crossarms. This appears to be the most likely near-term major transmission financing investment opportunity or obligation for Emera Maine. Emera Maine has a 21.7 percent interest in MEPCO.[41]

Q. Can you discuss the Thorndike Landing Letter?

A. Generally speaking, it is a review of Emera Maine regulatory documents and a summary of related risks for ENMAX related to the acquisition. It appears that ENMAX has considered many of the concerns expressed in the letter in the commitments it has made in its testimony.[42] The following examples illustrate this:

[Begin Confidential per PO 5]

[redacted]

[41] *See* paragraph 6 of the Joint Petition filing in this docket.
[42] *See* Exhibit GM-2 in the Prefiled Testimony of Gianna Manes filed June 10, 2019 in this proceeding.

[redacted]

[redacted]

[redacted].**[End Confidential per PO 5]**

Q. What was the purpose of the KPMG report?

A. **[Begin Confidential per PO 5]**[redacted].**[END Confidential per PO 5]** From a financial risk perspective for ENMAX, it would appear addressing these IT concerns could increase IT resource requirements.

Q. Can you describe the METSCO Report?

A. Yes. The report was prepared to provide a due diligence assessment of operations and prospects of Emera Maine and MEPCO for ENMAX to consider in its evaluation of the Acquisition. Specifically, this report addressed current asset health, asset upkeep practices; and asset intervention/expansion planning approaches. Most important, for the purposes of my evaluation, the METSCO report provides an

estimate of the likely range of 10-year capital costs that ENMAX may need to finance upon acquiring Emera Maine. Additionally, the report does provide some recommendations regarding possible enhancements to address concerns identified with the assessment of asset conditions.

Q. Do you believe the METSCO report is a complete and comprehensive evaluation of Emera Maine and the likely 10-year capital costs?

A. No, but it is certainly a good start. As stated, the METSCO Report is a limited assessment of asset conditions, operations and maintenance practices based primarily on a review of documentation, industry information and limited interviews and field observations. Furthermore, the report identifies several concerns regarding the scarcity and level of detail of asset and operations data available for the METSCO assessment. Given that the purpose of the report was to provide a range of risk and opportunity for ENMAX financial and organizational planning in acquiring Emera Maine, the METSCO Report appears to be one of the more comprehensive and detailed external due diligence reports prepared for ENMAX to evaluate the acquisition. For that reason, a detailed review of the report and examination of its conclusions and recommendations is warranted when determining the worst-case financial scenario for ENMAX following the proposed transaction.

Q. What did the METSCO Report conclude regarding Emera Maine electric plant and operations?

A. Section 5.2.1 of the report lists key findings. The following provides a summary of findings:

1. Emera Maine characteristics impacting electrical plant and operations:
    a. Emera Maine currently lacks a formal centralized Asset Management model;
    b. Emera Maine has been underinvesting in capital renewal and maintenance activities when compared to peer utilities over the past 5 years;

   c. Emera Maine capital planning does not appear to rank investment candidates of different types and maintenance scheduling does not appear to utilize operational indicators; and
   d. Emera Maine's operations does not appear to have fully assimilated the 2014 merger of BHD and MPD.
2. Emera Maine field operations:
   a. Despite positive trends in inspection activities, vegetation management, and equipment testing in line with the peer utilities, there does not appear to be evidence of tracking and utilizing asset inspection information in planning the capital and maintenance work;
   b. There appears to be a lack of reliance on quantitative information and leading indicators for maintenance planning and scheduling;
   c. IT tools were of mixed vintage and sophistication;
   d. The utility operates a 1998 vintage Outage Management System (OMS) and appears to still rely on paper-based planning and scheduling of line work maintenance and customer-requested work; and
   e. Emera Maine's system operations planning, and work execution practices will require a significant amount of hands-on management in the years following the transaction to improve reliability and to justify a sustained and robust capital reinvestment program.
3. Emera Maine Physical Assets:[43]
   a. A large amount of Emera Maine's T&D plant is significantly deteriorated and warrants replacement over the next 10-year period and beyond; and

[43] METSCO essentially recognizes that it had limited access to review raw asset data and its conclusions are therefore inferred from the information it had available.

b. Substations appear to be in comparatively better condition than lines, however obsolete porcelain components warrant decommissioning without undue delay.

Q. What did the METSCO Report calculate for a range of potential 10-year Emera Maine and MEPCO Capital Spending?

A. I believe the METSCO Report estimate of 10-year capital investment needs serves several functions, including a due diligence review of the Emera Maine system condition and some range of needed capital inputs to improve reliability and customer service. While one would assume that some of the METSCO Report suggestions would be incorporated into the financial model, as will be discussed, this is not what ENMAX has stated when asked in detail about the METSCO Report and its use. Nonetheless, it is important to consider this in the context of ENMAX's financial modelling since materially increased required capital expenditures could have negative consequences on ENMAX's ability to pay down transaction debt as fast as it plans. David Brevitz addresses this subject in further detail in his testimony on behalf of the OPA. In any case, Table 5-2 of the METSCO report lists the range of expected capital expenditures over the next 10 years in terms $ CDN. This Table has been summarized below:

Table 4

Capex 10-yr Estimate 2019-2028 METSCO report Table 5-2 Summary		
	Canadian Dollars March 16, 2019	
	low	High
Transmission Lines (Emera)	$410,000,000	$590,000,000
Distribution Lines (Emera)	$174,000,000	$330,000,000
Station Equipment (Emera)	$33,000,000	$47,000,000
Metering Infrastructure	$35,000,000	$50,000,000
Core IT System Upgrades	$62,000,000	$125,000,000
General and Storm Hardening	$75,000,000	$220,000,000
Subtotal (Emera)	$789,000,000	$1,362,000,000
Transmission Lines (MEPCO)	$21,000,000	$23,000,000
Station Rebuild (MEPCO)	$12,000,000	$13,000,000
Subtotal MEPCO	$33,000,000	$36,000,000
Total	**$822,000,000**	**$1,398,000,000**

To better compare this estimate to the values used in the 10-yr Emera Maine Capex forecast, the following table converted the amounts in Table 4 to US $, assuming the exchange rate of

CAD $1 = USD $0.75, the exchange rate on March 16, 2019 the date of the METSCO Report:

Table 5

Capex 10-yr Estimate 2019-2028 METSCO report Table 5-2 Summary		
	US Dollars March 16, 2019	
	low	High
Transmission Lines (Emera)	$307,500,000	$442,500,000
Distribution Lines (Emera)	$130,500,000	$247,500,000
Station Equipment (Emera)	$24,750,000	$35,250,000
Metering Infrastructure	$26,250,000	$37,500,000
Core IT System Upgrades	$46,500,000	$93,750,000
General and Storm Hardening	$56,250,000	$165,000,000
Subtotal (Emera)	$591,750,000	$1,021,500,000
Transmission Lines (MEPCO)	$15,750,000	$17,250,000
Station Rebuild (MEPCO)	$9,000,000	$9,750,000
Subtotal MEPCO	$24,750,000	$27,000,000
Total	**$616,500,000**	**$1,048,500,000**

Q. What observations did the METSCO Report make regarding the 10-year capex forecast?

A. The report states several observations regarding this forecast.[44] First it is mentioned that Emera Maine's own 10-year capex forecast is USD $799.4 M, which is toward the low end of the range in the report. Second, the report expresses a concern that the potential station equipment, T&D line work and IT investments will approach or even exceed the high end of the estimates. Third, the report expresses skepticism regarding the general and storm-hardening investments noting that overhead plant replacements performed through other programs may provide greater benefits. Finally, the report recommends that execution of a robust and sustained 10-year

[44] *See* page 104 to 105 of the METSCO Report.

capex program will depend on enhancing the Emera Maine Asset Management functions.

Q. How does METSCO believe enhancing the Emera Maine Asset Management functions is necessary for a viable 10-year capex program?

A. METSCO makes the following statement:

> "METSCO sees the need for *substantial and sustained improvements to Emera Maine's Asset Management function* as a key component for ensuring success of the acquisition:
>
> - Regulatory approval likelihood increases when the ask is supported by well-researched and compelling evidence;
> - Planning & execution accuracy improve when engineers and field staff are guided by consistent & data-driven AM principles;
> - Reactive expenditures and associated effort become more manageable when proactive asset management decisions account for the balance of risks."[45]

Q. How does the METSCO Report define Asset Management (AM) enhancement?

A. The report identifies four AM enhancement objectives and detailed actions and estimated costs for each.[46] The first objective is listed as "Master the Status Quo" and involves a comprehensive inventory and documentation of asset conditions. The tasks for this objective and the estimated costs are summarized in the following Table:

[45] *See* page 106 of the METSCO Report.
[46] *See* Table 5-3, pages 107 and 108 of the METSCO report

Table 6

Objective 1: "Master the Status Quo": Compile comprehensive and detailed digital asset records, reduce the number of "known unknowns."		Estimated Cost ($CAD)	Estimated Cost ($USD)
	One-Time AM Process Enhancement Expenses		
1	Conduct a Detailed Transmission Line ROW Inspection	$1,550,000	$1,162,500
2	Perform a Detailed Transmission Line Roadside Inspection	$390,000	$292,500
3	Complete Digitization & Spot Verification of Detailed Substation Inspections	$400,000	$300,000
4	Execute a Distribution System Feeder Inspection (including Underground Plant)	$2,500,000	$1,875,000
5	Perform a Detailed General Plant Audit & Formulate Strategy (IT, Facilities, Fleet)	$300,000	$225,000
	Objective 1 Totals	**$5,140,000**	**$3,855,000**

Objective 2 requires an enhancement and assessment of the information gathered in Objective 1. Specifically inventories and data bases put together in Objective 1 are coupled with a comprehensive operations audit and interviews with Subject Matter Experts (SMEs). The intent is to quantify maintenance and operating costs and reliability impacts of different assets to direct planning and expenditures that provide the best improvements to safety and reliability for the money spent. The tasks for this objective and the estimated costs are summarized in the following Table:

Table 7

Objective 2: "The 80/20 Rule": Identify and execute projects with highest reliability enhancement & safety risk reduction potential		Estimated Cost ($CAD)	Estimated Cost ($USD)
One-Time AM Process Enhancement Expenses			
6	Conduct a Detailed Operations Consulting Audit	$450,000	$337,500
7	Rectify most dangerous / imminent T&D asset issues identified through enhanced inspections.	$3,000,000	$2,250,000
8	Complete enhanced Vegetation Management Activities at most impactful Locations	$2,000,000	$1,500,000
	Objective 2 Totals	**$5,450,000**	**$4,087,500**

Objective 3 is dedicated to developing the corporate ability to sustain long-term AM enhancement efforts. The first objective is basically a comprehensive asset assessment, inventory and documentation effort. The second objective goes one step further identifying organizational expertise and processes for enhancement as well as focusing efforts on reliability and safety improvements. The third objective is more long term and focuses on the ability of the organization to plan and execute cost effective asset management investments. The tasks for this objective and the estimated costs are summarized in the following Table:

Table 8

Objective 3: "Build Long-Term Capacity:" conduct studies & implement results to foster sustainable AM processes utility-wide.		Estimated Cost ($CAD)	Estimated Cost ($USD)
One-Time AM Process Enhancement Expenses			
9	Develop an Asset Condition Assessment Report & Priority Recommendations	$250,000	$187,500
10	Retain & Train Dedicated AM Process Enhancement Staff	$200,000	$150,000
11	Set up an Asset Management System and Quantitative Risk-Based Framework	$400,000	$300,000
12	Develop and Execute a Comprehensive Staff Training Plan	$250,000	$187,500
13	Conduct a Vegetation Management Cost Effectiveness Study	$200,000	$150,000
	Objective 3 Totals	**$1,300,000**	**$975,000**

Objective 4 recognizes the need to build stakeholder support for long-term capex investments. Obviously, there is a concern for stakeholder and regulatory support for the level of AM enhancements and the frank assessment of this need and costs seems a little calculated. Nonetheless, stakeholder buy-in is an important consideration, especially given the level of needed investment identified. Furthermore, one must consider that the audience for the METSCO Report is intended to be ENMAX and the report was not written with a broader audience in mind. The tasks for this objective and the estimated costs are summarized in the following Table:

Table 9

Objective 4: "Build Key Stakeholder Support": Seek key stakeholder support to facilitate regulatory approvals sought over the long term		Estimated Cost ($CAD)	Estimated Cost ($USD)
One-Time AM Process Enhancement Expenses			
14	Develop a 10-year Regulatory AM Strategy & Stakeholder it with FERC & MPUC	$200,000	$150,000
15	Engage customers & key interest groups on the upcoming renewal strategy	$200,000	$150,000
16	ENMAX SME Engagement Time	$187,500	$140,625
17	Contingency (5%)	$1,189,000	$891,750
	Objective 4 Totals	**$1,776,500**	**$1,332,375**

Adding together all of the one-time costs to implement the 4 AM enhancement objectives yields the following Table:

Table 10

One-Time AM Process Enhancement Expenses by Objective		Estimated Cost ($CAD)	Estimated Cost ($USD)
Objective			
1	Master the Status Quo	$5,140,000	$3,855,000
2	The 80/20 Rule	$5,450,000	$4,087,500
3	Build Long-Term Capacity	$1,300,000	$975,000
4	Build Key Stakeholder Support	$1,189,000	$891,750
	One-Time AM Process Enhancement Expenses	**$13,079,000**	**$9,809,250**

METSCO goes on to estimate these one-time costs will occur over the first 4 years of the acquisition. Given that the most expensive efforts – determining asset

condition, documenting processes and findings, performing audits to focus efforts – appear to occur earlier rather than later in that period, it would be reasonable to assume that the one-time expenditures occur earlier rather than later in the 4-year process. Therefore, I believe it is reasonable to assume that 40 percent of the expenditures will occur in the first year, 30 percent in the second year, 20 percent in the third year and 10 percent in the fourth year. This yields the following Table of the expected AM Enhancement cost expenditures:

Table 11

One-Time AM Process Enhancement Expenses by Year	**Estimated Cost ($CAD)**	**Estimated Cost ($USD)**
2020	$5,231,600	$3,923,700
2021	$3,923,700	$2,942,775
2022	$2,615,800	$1,961,850
2023	$1,307,900	$980,925

The METSCO Report also recognizes that the AM Enhancement effort will incur ongoing annual expenses. These are illustrated in the following Table:

Table 12

Recurring Annual AM Process Enhancement Expenses		**Estimated Cost ($CAD)**	**Estimated Cost ($USD)**
18	AM Process Enhancement Staff Salaries	$300,000	$225,000
19	Long-Term Contingency	$30,000	$22,500
	Annual AM Process Enhancement Expenses	**$330,000**	**$247,500**

Q. Do you think ENMAX has accepted some of the more critical aspects of the METSCO report?

A. I am somewhat concerned that ENMAX appears to have discounted some of the overall conclusions of the METSCO report. **[Begin Confidential per PO 3]** [redacted]

Q. [redacted]

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[47] *See* the Protective Order 3 transcript from the August 14, 2019 technical conference in this proceeding, page 11.

[48] *Ibid.* page 13.

[49] *Ibid.* page 14.

A. [redacted]

[redacted] **End Confidential per PO 3]**

[Begin Confidential per PO 5]

Q. [redacted]

A. [redacted]

---

50 *Ibid.* page 15.
51 *Ibid.* pages 17-18
52 *Ibid.* page 18.

[redacted] **[End Confidential per PO 5]**

Q. In summary, do you believe ENMAX has incorporated the METSCO Report into its Emera Maine cash flow model?

A. No. It appears that ENMAX relied heavily on the Emera Maine 10-year Capex Spending Forecast despite some of the concerns expressed in the METSCO Report. Nonetheless while ENMAX did not appear to use the METSCO Report asset management suggestions in its budget assumptions, it does appear that ENMAX realizes the importance of a solid Asset Management program. For this reason, I believe that one of our recommended conditions for approval of the proposed transaction should be understood by ENMAX, as indicated in their statements.

VIII. Current 10-yr financial forecasts

Q. Have you reviewed the Emera Maine 10-year Capex Spending Forecast?

A. Yes. Emera prepared a 10-year financial model for Emera Maine for bidders to evaluate during the bidder solicitation process. The 10-year capex forecast is summarized in the Table below:

[53] *See* the Protective Order 5 transcript from the August 14, 2019 technical conference in this proceeding, page 71.
[54] *Ibid.* page 72.

Table 13

[BEGIN CONFIDENTIAL PO2]

[redacted]						
	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
[redacted]						

[redacted]

[END CONFIDENTIAL PO2]

IX. Emera Maine Distribution Storm Recovery Costs

Q. Why are Emera Maine storm recovery costs an issue of concern in evaluating this acquisition?

A. When considering the ability of ENMAX to successfully finance and operate Emera Maine and the associated facilities it is important to know the possible impact of storm recovery costs. While many of the due diligence studies conducted by ENMAX have contemplated expected levels of capital needed to successfully operate the acquired assets over the next 10 years, it is the purpose of this evaluation to consider the "worst case" expenditures that could arise. To that extent it is important to consider the possibility of a large and severe storm occurring and possible unanticipated distribution recovery costs. These unanticipated costs are especially critical if they occur the first few years after the acquisition when ENMAX is in the process of financially recovering from the purchase and rebuilding its credit rating.

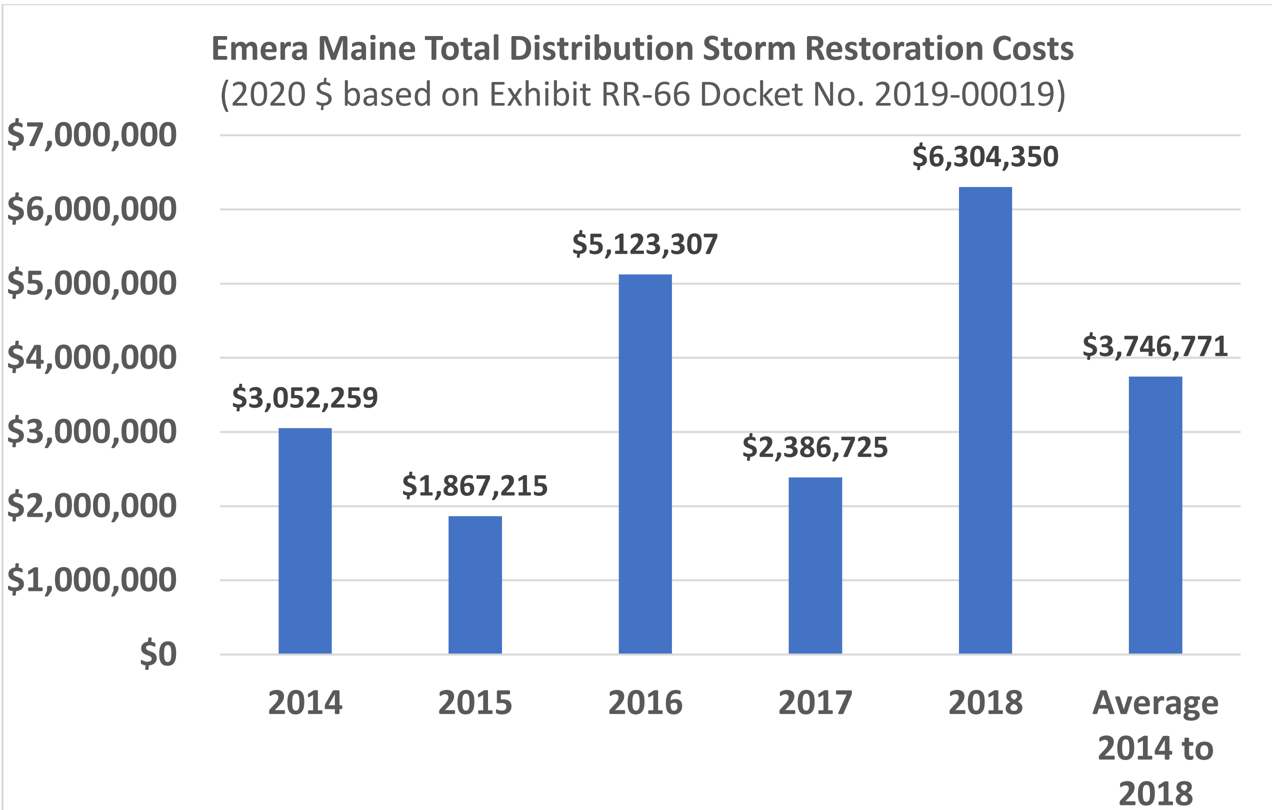
Q. Is there a concern that costs related to storm recovery of the Emera Maine distribution facilities could be increasing?

A. Yes. Emera Maine itself has described concerns regarding storm recovery costs in its presentation to potential buyers.[55] Comments to potential buyers include the observation that **[BEGIN CONFIDENTIAL PO 2]** [redacted] **[END CONFIDENTIAL PO2].[56]** Nonetheless, Emera Maine in its projected annual costs for storm recovery, provided as its financial model for potential buyers,[57] has only estimated a cost of **[BEGIN CONFIDENTIAL PO2]** [redacted] **[END CONFIDENTIAL PO2].[58]** Three months later Emera Maine filed a proposed increase in distribution rates in Docket No. 2019-00019 and estimated the average storm costs from 2014 through 2018 as $2,957,726, which is significantly more than the forecasted amounts used in the Emera Maine financial projections.[59]

[55] EXM-002-001 Attachment H, confidential pursuant to PO 2.
[56] *Ibid.* p. 36.
[57] OPA-002-014-Attachment M, confidential pursuant to PO 2.
[58] *Ibid.* p. 6.
[59] *See* Exhibit RR-66 Case No. 2019-00019.

Furthermore this 5-year average is calculated using only overtime labor. Actual 5-year average storm costs are estimated to be $3,746,771 using all labor costs assigned to storm recovery.[60] This is shown in the following illustration:

Figure 2



Q. Why do you believe it is appropriate to use the total costs of distribution storm restoration instead of adjusting out the non-overtime related labor?

A. The purpose of my evaluation is not the same as the calculation performed during a rate review. When determining the appropriate value to include in revenue requirements it makes sense to exclude non-overtime labor. This is because the purpose of a rate review storm cost calculation is to normalize expected storm restoration costs with the understanding that there will be an amount of "normal" costs related to distribution storm restoration, and a part of that "normal" cost will

[60] Both average cost values are adjusted by inflation to 2020 $.

be the routine non-overtime labor expected to be used each year for storm restoration.

Instead of looking at some type of "normalized cost" my evaluation will instead provide a reasonable estimate of the worst-case distribution related storm restoration costs that can be used to evaluate the effect such an unexpected event might have on the financial capability of the utility. While determining the extent and cost of such an event is naturally a challenge, consider what we do know. The highest storm recovery cost experienced in the last 5 years, adjusted for inflation, is $6,304,350, which represents total distribution storm recovery costs for Emera Maine in 2018 adjusted for inflation and expressed in 2020 $. Given that the storm damage in 2018 was relatively minor, by all accounts,[61] to the type of damage done by the 1998 ice storm, a reasonable estimate of the worst-case unanticipated storm recovery costs would seem to be roughly twice this amount, or $12,000,000.

X. Emera Maine Transmission Storm Recovery Costs

Q. Have you considered the worst-case storm recovery expenditures related to Emera Maine transmission facilities?

A. The same level of storm restoration cost information as the normalized values used in rate reviews for distribution facilities is not readily available for transmission lines. One of the reasons for this is that lower level local weather events do not have as great an effect on transmission facilities because transmission facilities are generally stronger and more dispersed. Another reason is that formula-based rates allowed for transmission cost recovery do not often require normalization of capital investments or unexpected costs. Nonetheless, a major extraordinary weather event could cause extensive damage to transmission facilities as well as distribution facilities.

The problem then is how to reasonably estimate a worst-case storm restoration cost for Emera Maine transmission facilities. One piece of information that is

[61] Accounts include the 1998 annual report by the Maine Public Utilities Commission that describes electric service interruptions up to 40 days during the storm restoration activities. *See* https://www.maine.gov/mpuc/about/annual_report/1998-annual%20report.pdf

available is the 10-year forecasted capex plans for both transmission and distribution lines. Using the top of the range calculated by METSCO, as shown in Table 5 the forecasted 10-year capex expenditures for Emera Maine transmission lines and distribution lines are $442,500,000 and $247,500,000 respectively.[62] In other words, the high end of the expected 10-year capex expenditure for transmission lines is approximately 180 percent of the same forecast for distribution line capex spending. Therefore, it would seem to be reasonable to assume that a worst-case transmission storm recovery cost could be assumed to be 180 percent of the $12,000,000 amount used for distribution facility storm recovery, or $21,600,000.

XI. Conclusions: Worst Case Financial Needs of Emera Maine

Q. Have you calculated an amount to be used to "stress test" the financial capacity of ENMAX to meet a worst-case Emera Maine event?

A. Yes. For purposes of this relatively extreme case I have used the high range of the METSCO 10-year capex forecast of $1,048,500,000 as compared to Emera Maine's 10-year capital forecast[63]of $799,400,000. The difference would be an additional capital funding requirement of $249,100,0000 over the 10-year period or an average of $24,910,000 a year. The additional AM Enhancement costs are reflected across the time period as both one-time costs and annual expenditures, both of which would be in addition to the amounts assumed in the financial models. Finally, the storm costs are assumed to be incurred in any given year. For purposes of evaluating the effects of these additional expenditures on the financial model, the following Table can be used to represent additional expenditures.

[62] For the purposes of this estimate Emera Maine's share of MEPCO's capex for transmission lines is not considered.

[63] The Emera Maine forecast is as described in the redacted METSCO Report provided as EME-002-005 Attachment 3, page 104.

1 **Table 14**

Worse-Case Emera Maine Expenditures in Addition to Financial Model					
	2020	**2021**	**2022**	**2023**	**2024**
Average High Range METSCO Capex	$104,850,000	$104,850,000	$104,850,000	$104,850,000	$104,850,000
Average Emera Maine Capex	$79,940,000	$79,940,000	$79,940,000	$79,940,000	$79,940,000
Capex difference	$24,910,000	$24,910,000	$24,910,000	$24,910,000	$24,910,000
AM Enhancement One Time Cost	$3,923,700	$2,942,775	$1,961,850	$980,925	
Annual AM Enhancement Cost	$247,500	$247,500	$247,500	$247,500	$247,500
Subtotal	$29,081,200	$28,100,275	$27,119,350	$26,138,425	$25,157,500
Extraordinary Distribution Storm Restoration Costs	$12,000,000	$12,000,000	$12,000,000	$12,000,000	$12,000,000
Extraordinary Transmission Storm Restoration Costs	$21,600,000	$21,600,000	$21,600,000	$21,600,000	$21,600,000
Subtotal Extraordinary	$33,600,000	$33,600,000	$33,600,000	$33,600,000	$33,600,000

Storm Restoration					
Total with Storm Restoration (only applies to one year)	$62,681,200	$61,700,275	$60,719,350	$59,738,425	$58,757,500
Note: Storm Restoration Costs are a worst case assumed to only happen in one year					

Q. But wouldn't this level of additional investment require a large rate increase?

A. It is important to note that this analysis is a worst-case scenario that can be used to stress test ENMAX's ability to be able to finance an extraordinary weather event and a larger than expected capital expenditure program. While the very definition of the storm restoration event being considered means it would be unexpected and unanticipated, a larger than expected asset management and capital expenditure program would occur out of need and necessity. The reliability performance of the Emera Maine transmission and distribution service indicates that there is conceivably a need for substantial investment in infrastructure, asset management and maintenance and inspection programs. However, higher than expected levels of expenditures would require, as a prerequisite, broad stakeholder discussion, input and support, with a general understanding that substantial investments will likely lead to a need to increase rates. Given the concerns that have been expressed with Emera Maine's reliability performance, it is not out of the question to contemplate a scenario where stakeholders could insist on a rapid deployment of system improvements to improve quality of service, even understanding the rate impact. For example, unexpectedly wide-spread and lengthy outages following a weather event could focus customer opinion on Emera Maine's reliability and create a public expectation of better performance sooner rather than later, causing an acceleration in the capex plan.

If that were the case, ENMAX's ability to finance such improvements must be considered to assure this acquisition is in the public interest. a bit more?]

Q. Has ENMAX recognized that there could be a broad customer demand for improved reliability and customer service?

A. While, as discussed previously, ENMAX has downplayed some of the findings of the METSCO Report, it is encouraging that three of their commitments[64] appear to recognize that Emera Maine customer service and reliability are a priority and it will be critical to engage stakeholders in this process:

8. ENMAX is committed to supporting Emera Maine's provision of safe and reliable distribution service. ENMAX commits to working with Staff, OPA, customers and other stakeholders to develop the key terms of commitments on these topics;
9. ENMAX is committed to supporting Emera Maine's provision of customer care. ENMAX commits to working with Staff, OPA, customers and other stakeholders to develop the key terms of commitments that will promote and foster customer care; and
10. ENMAX is committed to actively building and maintaining long-term relationships with stakeholders and stakeholder involvement.

Should Emera Maine's customers demand improved reliability and customer service improvements, ENMAX's ability to keep these commitments will be critical in developing a broad consensus for increased investment and the resulting rate increases.

XII. Recommendations

Q. Based on your review do you have any recommended conditions the Commission should consider if it approves the proposed transaction?

[64] *See* page 3 of 8 of Exhibit GM-2 of the Prefiled Testimony of Gianna Manes, filed June 10, 2019 in this proceeding.

A. Yes. I believe the variance of cost estimates in the capex budget projections indicate that while there is likely a great deal of need in capital improvement projects, it is difficult to assess these needs and plan, scope, prioritize and implement the most cost-effective plan to improve system reliability. To that end, I feel the observations related to enhancement of Emera Maine's Asset Management capabilities are a priority. Additionally, I think that immediately after closing of the transaction ENMAX needs to do its own independent assessment and review of the capex budget to ensure that the projects are done to achieve the greatest system reliability in the most cost-effective manner. Therefore, I recommend the Commission adopt the following conditions for approving the transaction:

1. Asset Management Enhancement Provisions:
    a. Within 3 months of the completion of the transaction, ENMAX[65] shall provide the Commission with its Asset Management Enhancement plan;
    b. Except for ongoing activities, the one-time Asset Management Enhancement activities shall be completed by the end of the 4th year following completion of the transaction; and
    c. ENMAX shall provide an annual report to the Commission for the first 5 years following the completion of the transaction on the progress, status and results of the Asset Management Enhancement plan.
2. Capex Budget Review:
    a. Within 6 months of the completion of the transaction, ENMAX shall complete a thorough review of the 10-year Emera Maine Capex budget and develop its own list of projects and forecasts and a detailed report of these activities, conclusions and the resulting plan to the Commission;

[65] As used in these proposed conditions, ENMAX is assumed to be Emera Maine (including MEPCO and acquired US holdings) with the full endorsement of ENMAX management and the independent board.

b. Annually, at the end of each of the first ten years following completion of the transaction, ENMAX shall provide the Commission a report detailing implementation, changes, progress, results and costs of implementing the 10-year capex plan completed six months after closing.

Q. Does this conclude your direct testimony?

A. Yes.